

§ 56.01-10

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section or at the beginning of the paragraph as follows:

(1) (Modifies ____.) This indicates that the material in the ANSI-B31.1 so numbered for identification is generally applicable but is being altered, amplified or augmented.

(2) (Replaces ____.) This indicates that the material in the ANSI-B31.1 so numbered for identification does not apply.

(3) (Reproduces ____.) This indicates that the material in the ANSI-B31.1 so numbered for identification is being identically reproduced for convenience, not for emphasis.

(c) As stated in § 50.15-10 of this chapter, the standards of the ANSI (American National Standards Institute) specifically referred to in this part shall be the governing requirements for the subject matters covered unless specifically limited, modified or replaced by other regulations in this subchapter. See § 56.60-1(b) for the other adopted commercial standards applicable to piping systems which also form a part of this subchapter.

[CGFR 68-82, 33 FR 18843, Dec. 18, 1968, as amended by CGFR 69-127, 35 FR 9978, June 17, 1970; CGFR 72-59R, 37 FR 6189, Mar. 25, 1972; CGD 73-254, 40 FR 40164, Sept. 2, 1975; CGD 77-140, 54 FR 40602, Oct. 2, 1989]

§ 56.01-10 Plan approval.

(a) Plans and specifications for new construction and major alterations showing the respective piping systems shall be submitted, as required by subpart 50.20 of this subchapter.

(b) Piping materials and appliances, such as pipe, tubing, fittings, flanges, and valves, except safety valves and safety relief valves covered in part 162 of subchapter Q (Specifications) of this chapter, are not required to be specifically approved by the Commandant, but shall comply with the applicable requirements for materials, construction, markings, and testing. These materials and appliances shall be certified as described in part 50 of this subchapter. Drawings listing material specifications and showing details of welded joints for pressure-containing appurtenances of welded construction shall be submitted in accordance with paragraph (a) of this section.

(c)(1) Prior to installation aboard ship, diagrams of the following systems shall be submitted for approval:

- (i) Steam and exhaust piping.
- (ii) Boiler feed and blowoff piping.
- (iii) Safety valve escape piping.
- (iv) Fuel oil service, transfer and filling piping. (Service includes boiler fuel and internal combustion engine fuel piping.)
- (v) Fire extinguishing systems including fire main and sprinkler piping, inert gas and foam.
- (vi) Bilge and ballast piping.
- (vii) Tank cleaning piping.
- (viii) Condenser circulating water piping.

(ix) Vent, sound and overflow piping.

(x) Sanitary drains, soil drains, deck drains, and overboard discharge piping.

(xi) Internal combustion engine exhaust piping. (Refer to part 58 of this subchapter for requirements.)

(xii) Cargo piping.

(xiii) Hot water heating systems if the temperature is greater than 121 °C (250 °F).

(xiv) Compressed air piping.

(xv) Fluid power and control systems (hydraulic, pneumatic). (Refer to subpart 58.30 of this subchapter for specific requirements.)

(xvi) Lubricating oil piping.

(xvii) Refrigeration and air conditioning piping. (Refer to part 58 of this subchapter for specific requirements.)

(2) Arrangement drawings of the following systems shall also be submitted prior to installation:

(i) All Classes I, I-L, and II-L systems.

(ii) All Class II firemain, foam, sprinkler, bilge and ballast, vent sounding and overflow systems.

(iii) Other Class II systems only if specifically requested or required by regulations in this subchapter.

(d)(1) The drawings or diagrams shall include a list of material, furnishing pipe diameters, wall thicknesses, design pressure, fluid temperature, applicable ASTM material or ANSI component specification, type, size, design standard, and rating of valves, flanges, and fittings.

(2) Pump rated capacity and pump shutoff head shall appear on piping diagrams. Pump characteristic curves shall be submitted for all pumps in the

firemain and foam systems. These curves need not be submitted if the following information is shown on the drawing:

(i) Rated capacity and head at rated capacity.

(ii) Shutoff head.

(iii) Head at 150 percent rated capacity.

(3) Standard drawings of the following fabrication details shall be submitted:

(i) Welding details for piping connections.

(ii) Welding details for nonstandard fittings (when appropriate).

(d-1) Plans of piping for industrial systems on mobile offshore drilling units must be submitted under subpart 58.60 of this subchapter.

(e) Where piping passes through watertight bulkheads and/or fire boundaries, plans of typical details of piping penetrations shall be submitted.

(f) Arrangement drawings specified in paragraph (c)(2) of this section are not required if—

(1) The location of each component for which there is a location requirement (i.e., shell penetration, fire station, foam monitor, etc.) is indicated on the piping diagram;

(2) The diagram includes, or is accompanied by and makes reference to,

a material schedule which describes components in sufficient detail to substantiate their compliance with the regulations of this subchapter;

(3) A thermal stress analysis is not required; and

(4) A dynamic analysis is neither required nor elected in lieu of allowable stress reduction.

[CGFR 68-82, 33 FR 18843, Dec. 18, 1968, as amended by CGFR 69-127, 35 FR 9978, June 17, 1970; CGFR 72-59R, 37 FR 6189, Mar. 25, 1972; CGD 73-251, 43 FR 56799, Dec. 4, 1978, CGD 77-140, 54 FR 40602, Oct. 2, 1989; CGD 95-012, 60 FR 48049, Sept. 18, 1995]

Subpart 56.04—Piping Classification

§ 56.04-1 Scope.

Piping shall be classified as shown in Table 56.04-1.

TABLE 56.04-1—PIPING CLASSIFICATIONS

Service	Class	Section in this part
Normal	I, II	56.04-2
Low temperature	I-L, II-L	56.50-105

[CGD 72-206R, 38 FR 17229, June 29, 1973, as amended by CGD 77-140, 54 FR 40602, Oct. 2, 1989; CGD 95-012, 60 FR 48049, Sept. 18, 1995]

§ 56.04-2 Piping classification according to service.

The designation of classes according to service is found in Table 56.04-2.

TABLE 56.04-2—PRESSURE PIPING CLASSIFICATION

Service	Class ¹	Pressure (p.s.i.g.)	Temp. (°F)
Class B and C poisons ²	I	any	0 and above.
	I-L	any	below 0.
	II	(³)	(³)
	II-L	(³)	(³)
Gases and vapors ²	I	above 150	or
	I-L	above 150	above 650.
	II	150 and below	and
	II-L	150 and below	below 0.
Liquefied flammable gases ²	I	above 150	and
	I-L	above 150	below 0.
	II	150 and below	and
	II-L	150 and below	below 0.
Molten sulphur	I	above 225	or
	II	225 and below	above 330.
Cargo liquids Grades A through D ²	I	above 225	and
	I-L	above 225	or
	II	225 and below	above 150.
	II-L	225 and below	below 0.
Cargo liquids Grade E	I	above 225	and
	I-L	above 225	below 0.
	II	225 and below	and
	II-L	225 and below	below 0.